

CLAIMS

1. A liquid-crystalline medium having a helically twisted structure comprising a nematic component and an optically active component, wherein:

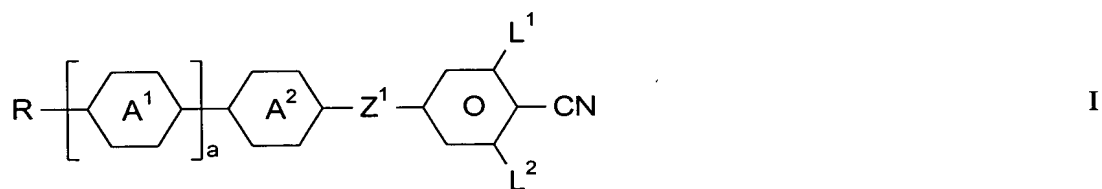
the optically active component comprises one or more chiral compounds whose helical twisting power and concentration are selected in such a way that the helix pitch of the medium is $\leq 1 \mu\text{m}$, and

the medium has a birefringence Δn of ≤ 0.16 .

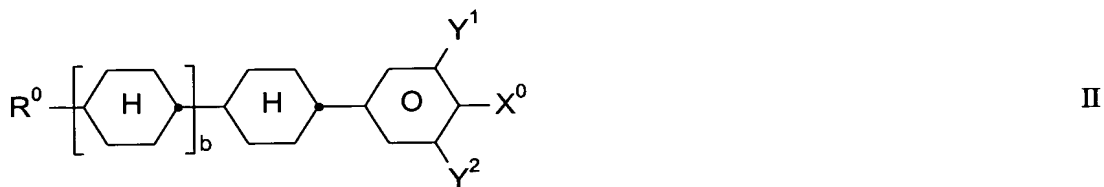
2. A liquid-crystalline medium having a helically twisted structure comprising a nematic component and an optically active component, wherein:

the optically active component comprises one or more chiral compounds whose helical twisting power and concentration are selected in such a way that the helix pitch of the medium is $\leq 1 \mu\text{m}$, and

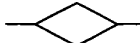
the nematic component comprises one or more compounds of the formula I

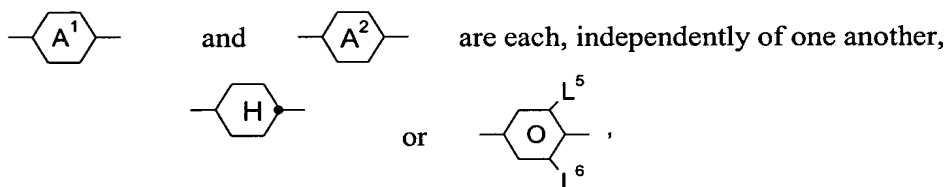


and one or more compounds of the formula II



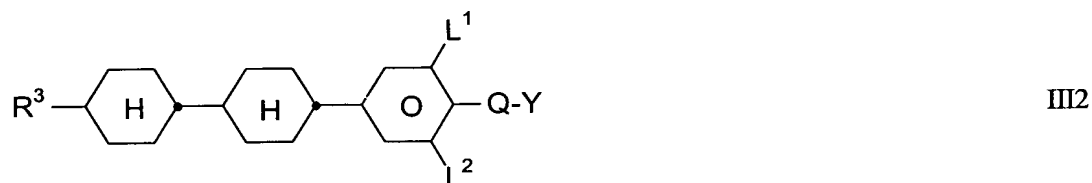
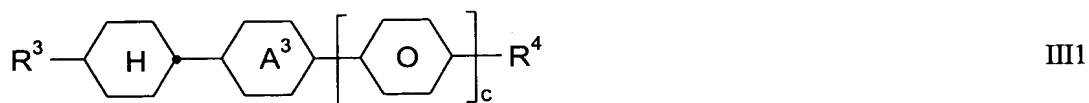
in which

R and R⁰ are each, independently of one another, H or an alkyl or alkenyl radical having from 1 to 15 carbon atoms which is unsubstituted, monosubstituted by CN or CF₃ or at least monosubstituted by halogen, where one or more CH₂ groups in these radicals are optionally, independently of one another, replaced by -O-, -S-, , -CO-, -CO-O-, -O-CO-, -O-CO-O- or -C≡C- in such a way that O atoms are not linked directly to one another,



L¹, L², L⁵ and L⁶ are each, independently of one another, H or F,
 Z¹ is -COO- or, if at least one of the radicals A¹ and A² is trans-1,4-cyclohexylene, is alternatively -CH₂CH₂- or a single bond,
 Y¹ and Y² are each, independently of one another, H or F,
 X⁰ is F, Cl, CN, halogenated alkyl, alkenyl or alkoxy having from 1 to 6 carbon atoms, and
 a and b are each, independently of one another, 0 or 1.

3. A medium according to Claim 2, with additionally comprises one or more alkenyl compounds selected from the following formulae:



in which

A^3 is 1,4-phenylene or trans-1,4-cyclohexylene,

c is 0 or 1,

R^3 is an alkenyl group having from 2 to 7 carbon atoms,

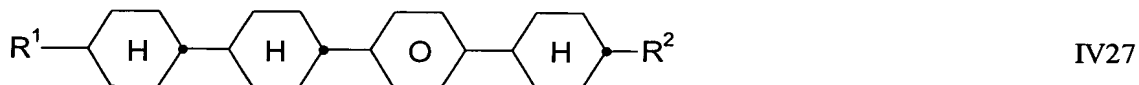
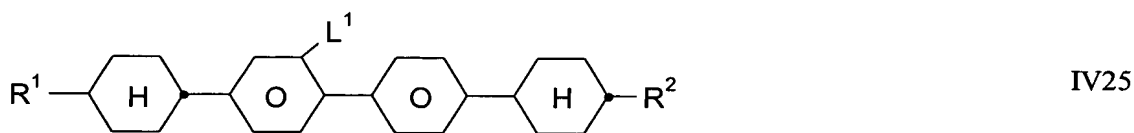
R^4 is an alkyl, alkoxy or alkenyl group having from 1 to 12 carbon atoms, in which one or two non-adjacent CH_2 groups are optionally replaced by $-\text{O}-$, $-\text{CH}=\text{CH}-$, $-\text{C}\equiv\text{C}-$, $-\text{CO}-$, $-\text{OCO}-$ or $-\text{COO}-$ in such a way that O atoms are not linked directly to one another,

Q is CF_2 , OCF_2 , CFH , OCFH or a single bond,

Y is F or Cl, and

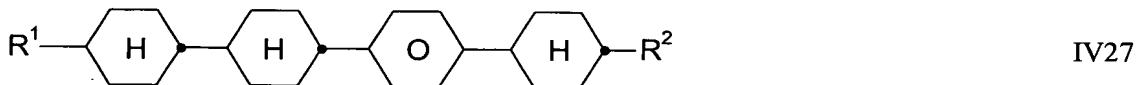
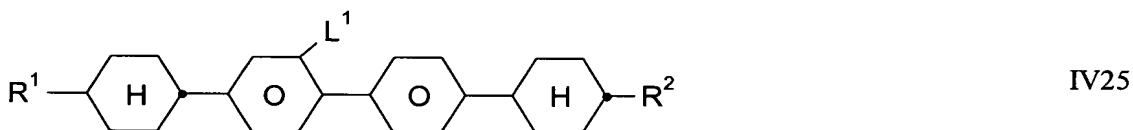
L^1 and L^2 are each, independently of one another, H or F.

4. A medium according to Claim 2, which additionally comprises one or more compounds selected from the following formulae:



in which R^1 and R^2 have one of the meanings indicated for R in the formula I, and L is H or F.

5. A medium according to Claim 3, which additionally comprises one or more compounds selected from the following formulae:



in which R^1 and R^2 have one of the meanings indicated for R in the formula I, and L is H or F.

6. A medium according to Claim 2, wherein the proportion of compounds of the formula I in the mixture as a whole is from 7 to 80% by weight.

7. A medium according to Claim 2, wherein the proportion of compounds of the formula II in the mixture as a whole is from 5 to 50% by weight.

8. A medium according to Claim 2, wherein the proportion of the optically active component is from 0.01 to 7%.

9. A medium according to Claim 2, wherein the medium has a reflection wavelength in the range from 400 to 800 nm.

10. A medium according to Claim 2, wherein the medium has a birefringence Δn of < 0.16 .

11. An electro-optical liquid-crystal display containing a liquid-crystalline medium according Claim 1.

12. An electro-optical liquid-crystal display containing a liquid-crystalline medium according Claim 2.

13. An electro-optical liquid-crystal display according to Claim 11, which display is a cholesteric, SSCT, PSCT or flexoelectric display.

14. An electro-optical liquid-crystal display according to Claim 12, which display is a cholesteric, SSCT, PSCT or flexoelectric display.